IN THE CLAIMS:

1. (Currently Amended) A method of imaging an object for dental purposes, comprising the steps of:

a) projecting a striped pattern on to the object to be imaged,

b) recording the projected striped pattern as a basic image (R_i) with a picture receiver at an angle other than the angle of projection,

steps a) and b) being carried out at a number of different positions of the phase relation of the striped pattern, and

c) computing an image of said object from the plurality of basic camera images that are out-of-phase with each other (R_1..., R_n),

wherein in order to suppress periodic disturbances~~, i.e., noise,~~ in step c),

~~c1) forming from the basic camera (R_1,..., R_m) images at least two groups of basic images (R_1,R_2..., R_n; R_2, and R_3..., R_n+1),~~

~~c2) computing a phase related image (P_j) of the object to be imaged from each group of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1)~~

~~c3) averaging the computed phase related images (P_1, P_2) such that a phase related image (P) having a reduced amount of noise is~~

~~formed, and~~

c1) recording (n+2) basic images (R_1, R_2..., R_n+2) of which successive basic images show a phase shift,

c2) forming three groups of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1; R_3, R_4, ..., R_n+2),

c3) computing a first phase related image (P_1) from the first group of basic images (R_1, R_2, ..., R_n), a second phase related image (P_2) from the second group of basic images (R_2, R_3, ..., R_n+1), and computing a third phase related image (P_3) from the third group of basic images (R_3, R_4, ..., R_n+2),

c4) averaging the first phase related image (P_1) and the third phase related image (P_3) in order to obtain an intermediate image (Pz), and averaging the second phase related image (P_2) and the intermediate image (Pz) in order to obtain a phase related image (P) having a reduced amount of noise, n being an integer at least equal to 3, and

c[[4]]5) computing an image of the object to be imaged from the phase related image (P) having a reduced amount of noise.

2. (Original) A method as defined in claim 1, wherein the computed phase related images (P_1, P_2) are averaged with weighting factors.

3. (Original) A method as defined in claim 1, wherein the basic images (R_1..., R_m) are each recorded with a constant shift of the phase relation of the lattice (19).

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6. (Currently Amended) A method as defined in claim ~~4~~ 1, wherein n is 4.

7. (Original) A method as defined in claim 1, wherein the basic images (R_1, ..., R_m) are recorded by an interlacing method so that the two fields are out-of-phase with each other.

8. (Original) A method as defined in claim 7, wherein the two fields show a phase shift relative to each other which is equal to half the phase shift between successive basic images (R_1, ..., R_m).

9. (Original) A method as defined in claim 7, wherein a phase related image (P_1, P_2) is computed from each of the fields of a basic image (R_1, ..., R_m) and the two phase related images (P_1, P_2) are averaged prior to further processing in such a manner that a phase related image (P) having a reduced amount of high-frequency noise is formed.

10. (Original) A method as defined in claim 1, wherein prior to step a), an image of a specific test object is recorded and that on the basis of an analysis of the image of the test object a suitable scheme for

use in the computation of the noise-reduced phase related image for the object to be imaged is selected.

11. (Original) A method as defined in claim 1, wherein the object to be imaged and a camera used for recording the projected striped pattern can be freely positioned relative to each other.

12. (Original) A method as defined in claim 1, wherein an image of one or more teeth in a oral cavity of a patient is recorded by manual surveying over a short measurement period.

13. (Original) A method as defined in claim 1, wherein the image to be created of said object is one of a relief image and a contrast image.

14. (Currently Amended) A device for carrying out the process as defined in claim 1, comprising

[[-]] projecting means for projecting a striped pattern on to the object to be imaged,

[[-]] a camera for recording the projected striped pattern in the form of a basic image (R_1, ..., R_m) ~~and~~

[[-]] means for computing an image of the object to be imaged from a number of basic camera images (R_1, ..., R_m) that are out-of-phase with each other with formation of ~~at least two~~ three groups of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1).

means for averaging two groups of basic images, and

means for averaging the averaged image with a third group of images.

15. (New) A method of imaging an object for dental purposes, comprising the steps of:

a) projecting a striped pattern on to the object to be imaged,

b) recording the projected striped pattern as a basic image (R_i) with a picture receiver at an angle other than the angle of projection,

b1) wherein the basic images (R_1, ..., R_m) are recorded by an interlacing method so that the two fields are out-of-phase with each other,

steps a) and b) being carried out at a number of different positions of the phase relation of the striped pattern, and

c) computing an image of said object from the plurality of basic camera images that are out-of-phase with each other (R_1..., R_n),

wherein in order to suppress periodic disturbances, i.e., noise, in step c),

c0) wherein a phase related image (P_1, P_2) is computed from each of the fields of a basic image (R_1, ..., R_m) and the two phase

related images (P_1, P_2) are averaged prior to further processing in such a manner that a phase related image (P) having a reduced amount of high-frequency noise is formed,

c1) forming from the basic camera (R_1,..., R_m) images at least two groups of basic images (R_1, R_2..., R_n; R_2, and R_3..., R_n+1),

c2) computing a phase related image (P_j) of the object to be imaged from each group of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1)

c3) averaging the computed phase related images (P_1, P_2) such that a phase related image (P) having a reduced amount of noise is formed, and

c4) computing an image of the object to be imaged from the phase related image (P) having a reduced amount of noise.

16. (New) A method as defined in claim 15, wherein the computed phase related images (P_1, P_2) are averaged with weighting factors.

17. (New) A method as defined in claim 15, wherein the basic images (R_1..., R_m) are each recorded with a constant shift of the phase relation of the lattice (19).

18. (New) A method as defined in claim 15, including

recording (n+1) basic images (R_1, R_2, ..., R_n+1) successive basic images showing a phase shift,

forming two groups of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1),

computing a first phase related image (P_1) from the first group of basic images (R_1, R_2, ..., R_n) and computing a second phase related image (P_2) is computed from the second group of basic images (R_2, R_3..., R_n+1), and

averaging the first phase related image (P_1) and the second phase related image (P_2) in order to obtain a phase related image (P) having a reduced amount of noise, n being an integer at least equal to 3.

19. (New) A method as defined in claim 15, including

recording (n+2) basic images (R_1, R_2..., R_n+2) of which successive basic images show a phase shift,

forming three groups of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1; R_3, R_4, ..., R_n+2),

computing a first phase related image (P_1) from the first group of basic images (R_1, R_2, ..., R_n), computing a second phase related image (P_2) from the second group of basic images (R_2, R_3, ..., R_n+1), and computing a third phase related image (P_3) from the third group of basic images (R_3, R_4, ..., R_n+2), and

averaging the first phase related image (P_1) and the third phase related image (P_3) in order to obtain an intermediate image (P_z), and averaging the second phase related image (P_2) and the intermediate image (P_z) in order to obtain a phase related image (P) having a reduced amount of noise, n being an integer at least equal to 3.

20. (New) A method as defined in claim 19, wherein n is 4.

21. (New) A method as defined in claim 15, wherein the two fields show a phase shift relative to each other which is equal to half the phase shift between successive basic images (R_1, ..., R_m).

22. (New) A method as defined in claim 15, wherein prior to step a), recording an image of a specific test object and on the basis of an analysis of the image of the test object selecting a suitable scheme for use in the computation of the noise-reduced phase related image for the object to be imaged.

23. (New) A method as defined in claim 15, wherein the object to be imaged and a camera used for recording the projected striped pattern can be freely positioned relative to each other.

24. (New) A method as defined in claim 15, wherein an image of one or more teeth in a oral cavity of a patient is recorded by manual surveying over a short measurement period.

25. (New) A method as defined in claim 15, wherein the image to be created of said object is one of a relief image and a contrast image.

26. (New) A device for carrying out the process as defined in claim 1, comprising

projecting means for projecting a striped pattern on to the object to be imaged,

a camera for recording the projected striped pattern in the form of a basic image (R_1, ..., R_m),

means for computing an image of the object to be imaged from a number of basic camera images (R_1, ..., R_m) that are out-of-phase with each other with formation of at least two groups of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1), and

means for recording the basic image by an interlocking method.

27. (New) A method of imaging an object for dental purposes, comprising the steps of:

a) projecting a striped pattern on to the object to be imaged,

b) recording the projected striped pattern as a basic image (R_i) with a picture receiver at an angle other than the angle of projection,

steps a) and b) being carried out at a number of different positions of the phase relation of the striped pattern, and

c) computing an image of said object from the plurality of basic camera images that are out-of-phase with each other (R_1..., R_n),

wherein in order to suppress periodic noise disturbances in step c),

c1) forming from the basic camera (R_1,..., R_m) images at least two groups of basic images (R_1, R_2..., R_n; R_2, and R_3..., R_n+1),

c2) computing a contrast image (P_j) of the object to be imaged from each group of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1)

c3) averaging the computed contrast images (P_1, P_2) such that a contrast image (P) having a reduced amount of noise is formed, and

c4) computing an image of the object to be imaged from the contrast image (P) having a reduced amount of noise.

28. (New) A method as defined in claim 27, wherein the computed contrast images (P_1, P_2) are averaged with weighting factors.

29. (New) A method as defined in claim 27, wherein the basic images (R_1..., R_m) are each recorded with a constant shift of the phase relation of the lattice (19).

30. (New) A method as defined in claim 27, wherein

recording (n+1) basic images (R_1, R_2, ..., R_n+1) successive basic images showing a phase shift,

forming two groups of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1),

computing a first contrast image (P_1) from the first group of basic images (R_1, R_2, ..., R_n) and computing a second contrast image (P_2) from the second group of basic images (R_2, R_3..., R_n+1), and

averaging the first contrast image (P_1) and the second contrast image (P_2) in order to obtain a contrast image (P) having a reduced amount of noise, n being an integer at least equal to 3.

31. (New) A method as defined in claim 27, including

recording (n+2) basic images (R_1, R_2..., R_n+2) of which successive basic images show a phase shift,

forming three groups of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1; R_3, R_4, ..., R_n+2),

computing a first contrast image (P_1) from the first group of basic images (R_1, R_2, ..., R_n), computing a second contrast image (P2) from the second group of basic images (R_2, R_3, ..., R_n+1), and computing a third contrast image (P_3) from the third group of basic images (R_3, R_4, ..., R_n+2), and

averaging the first contrast image (P_1) and the third contrast image (P_3) in order to obtain an intermediate image (Pz), and averaging the second contrast image (P_2) and the intermediate image (Pz) in order to obtain a contrast image (P) having a reduced amount of noise, n being an integer at least equal to 3.

32. (New) A method as defined in claim 31, wherein n is 4.

33. (New) A method as defined in claim 27, including recording the basic images (R_1, ..., R_m) by an interlacing method so that the two fields are out-of-phase with each other.

34. (New) A method as defined in claim 33, wherein the two fields show a phase shift relative to each other which is equal to half the phase shift between successive basic images (R_1, ..., R_m).

35. (New) A method as defined in claim 33, wherein a contrast image (P_1, P_2) is computed from each of the fields of a basic image (R_1, ..., R_m) and the two contrast images (P_1, P_2) are averaged prior to further processing in such a manner that a contrast image (P) having a reduced amount of high-frequency noise is formed.

36. (New) A method as defined in claim 27, wherein prior to step a), recording an image of a specific test object and on the basis of an analysis of the image of the test object selecting a suitable scheme for use in the computation of the noise-reduced contrast image for the

object to be imaged.

37. (New) A method as defined in claim 27, wherein the object to be imaged and a camera used for recording the projected striped pattern can be freely positioned relative to each other.

38. (New) A method as defined in claim 27, wherein an image of one or more teeth in a oral cavity of a patient is recorded by manual surveying over a short measurement period.

39. (New) A device for carrying out the process as defined in claim 27, comprising

projecting means for projecting a striped pattern on to the object to be imaged,

a camera for recording the projected striped pattern in the form of a basic image (R_1, ..., R_m),

means for computing an image of the object to be imaged from a number of basic camera images (R_1, ..., R_m) that are out-of-phase with each other with formation of at least two groups of basic images (R_1, R_2, ..., R_n; R_2, R_3, ..., R_n+1), and

means for computing a contrast image from the at least two groups of basic images.